

ABSTRACT OF THE DISCLOSURE

5 Organofluorosilicate glass films contain both organic species and inorganic fluorines, exclusive of significant amounts of fluorocarbon species. Preferred films are represented by the formula $\text{Si}_v\text{O}_w\text{C}_x\text{H}_y\text{F}_z$, where $v+w+x+y+z = 100\%$, v is from 10 to 35 atomic%, w is from 10 to 65 atomic% y is from 10 to 50 atomic%, x is from 1 to 30 atomic%, z is from 0.1 to 15 atomic%, and x/z is optionally greater than 0.25, wherein

10 substantially none of the fluorine is bonded to the carbon. A CVD method includes: (a) providing a substrate within a vacuum chamber; (b) introducing into the vacuum chamber gaseous reagents including a fluorine-providing gas, an oxygen-providing gas and at least one precursor gas selected from an organosilane and an organosiloxane; and (c)

15 applying energy to the gaseous reagents in the chamber to induce reaction of the gaseous reagents and to form the film on the substrate.